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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,051

03/18/2004

Ronald S. Plantan

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EXAMINER

BURCH, MELODY M

ART UNIT

PAPER NUMBER

3657

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/803,051	<b>Applicant(s)</b> PLANTAN, RONALD S.	
	<b>Examiner</b> Melody M. Burch	<b>Art Unit</b> 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4583609 to Anderson et al. in view of WIPO 2004/026649 to Simmons.

Re: claims 1-3 and 16. Anderson et al. show in figure 2 a brake disc comprising a hub portion 86, a friction portion 82, the friction portion formed as a generally planar ring and a connecting flange portion 84 wherein the connecting flange portion connects a radially outer region of the hub portion to a radially inner region of the friction portion radially inward from a radially inner most friction surface of the friction portion, the connecting flange portion has a length such that when the hub portion and a wheel rim 60 adapted to be mounted on a hub end of a vehicle axle are concentrically located at the hub end of the axle, the friction portion is outboard of the wheel rim as shown, and the friction portion has an outer radius greater than an inner radius of the wheel rim as shown.

It is not clear whether the outer radius of the friction portion is greater than the greatest inner radius of the wheel rim since the greatest inner radius of the wheel rim of

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Anderson et al. appears in the flared ends of the wheel rim in the area above the number 3 in the element number "36" in figure 2 of Anderson et al.

Simmons teaches in the figure on the front of the patent the use of a wheel rim having wheel rim edges that do not flare out and, thus, include the greatest inner radius portion of the wheel rim in the central region of the wheel rim comparable to region 60 in the Anderson et al. device. In Simmons the wheel rim edges extend perpendicularly with respect to the axis of rotation of the wheel so that the greatest inner radius of the wheel rim is at the bottom of the central portions of the wheel rim.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the wheel rim of Anderson et al. to have included wheel rim edges that extend perpendicularly with respect to the axis of rotation of the wheel, as taught by Simmons, in order to provide wheel rim edges that help maintain the tire on the rim and reduce the possibility of the tire becoming decoupled from the rim.

Examiner notes that modifying the wheel rim edges of Anderson et al. to have included those constructed, as taught by Simmons, would result in the greatest inner radius of the wheel rim of Anderson et al. being located at the bottom of the central portions of wheel rim 60. As shown in figure 2 of Anderson et al., the outer radius of the friction portion 82 is greater than the inner radius section of the central portions of wheel rim 60.

Re: claims 4-6 and 17-19. Anderson et al., as modified, teach in figure 2 of Anderson et al. at least one heat-conduction limiting section or reduced thickness

shown at the top portion of the friction portion 82 as compared to the thicker base of the friction portion.

3. Claims 10-12 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. in view of Simmons as applied above, and further in view of US Patent Application 2002/0166740 to Zhang.

Anderson et al., as modified, describe the invention substantially as set forth above, but are silent with regards to the presence of cooling fins.

Zhang teaches in figures 2 and 2A the use of a disc having cooling fins 243 disposed about an inner radius of the friction portion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the disc of Anderson et al., as modified, to have included cooling fins, as taught by Zhang, in order to provide a means of improving heat dissipation.

4. Claims 7-9 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. in view of Simmons as applied above, and further in view of WIPO 03/067112 (WO'112).

WO'112 shows in figure 1 a brake disc having a connecting flange portion 14 with a ventilation aperture 40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the connecting portion of Anderson et al., as modified, to have included at least one ventilation aperture, as taught by WO'112, in

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order to provide a means of promoting heat dissipation to help prevent disc damage from overheating.

5. Claims 13-15 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. in view of Simmons and WIPO 03/067112 (WO'112) as applied above and further in view of Zhang.

Anderson et al., as modified, describe the invention substantially as set forth above, but are silent with regards to the presence of cooling fins.

Zhang teaches in figures 2 and 2A the use of a disc having cooling fins 243 disposed about an inner radius of the friction portion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the disc of Anderson et al., as modified, to have included cooling fins, as taught by Zhang, in order to provide a means of improving heat dissipation.

### ***Response to Arguments***

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb

April 11, 2009

/Melody M. Burch/

Primary Examiner, Art Unit 3657